

§ 23.855

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flame for more than an average of 3 seconds after falling.

[Amdt. 23–14, 23 FR 31822, Nov. 19, 1973, as amended by Amdt. 23–23, 43 FR 50593, Oct. 30, 1978; Amdt. 23–25, 45 FR 7755, Feb. 4, 1980; Amdt. 23–34, 52 FR 1831, Jan. 15, 1987]

§ 23.855 Cargo and baggage compartment fire protection.

(a) Sources of heat within each cargo and baggage compartment that are capable of igniting the compartment contents must be shielded and insulated to prevent such ignition.

(b) Each cargo and baggage compartment must be constructed of materials that meet the appropriate provisions of § 23.853(d)(3).

(c) In addition, for commuter category airplanes, each cargo and baggage compartment must:

(1) Be located where the presence of a fire would be easily discovered by the pilots when seated at their duty station, or it must be equipped with a smoke or fire detector system to give a warning at the pilots' station, and provide sufficient access to enable a pilot to effectively reach any part of the compartment with the contents of a hand held fire extinguisher, or

(2) Be equipped with a smoke or fire detector system to give a warning at the pilots' station and have ceiling and sidewall liners and floor panels constructed of materials that have been subjected to and meet the 45 degree angle test of appendix F of this part. The flame may not penetrate (pass through) the material during application of the flame or subsequent to its removal. The average flame time after removal of the flame source may not exceed 15 seconds, and the average glow time may not exceed 10 seconds. The compartment must be constructed to provide fire protection that is not less than that required of its individual panels; or

(3) Be constructed and sealed to contain any fire within the compartment.

[Doc. No. 27806, 61 FR 5167, Feb. 9, 1996]

§ 23.859 Combustion heater fire protection.

(a) *Combustion heater fire regions.* The following combustion heater fire regions must be protected from fire in ac-

cordance with the applicable provisions of §§ 23.1182 through 23.1191 and 23.1203:

(1) The region surrounding the heater, if this region contains any flammable fluid system components (excluding the heater fuel system) that could—

(i) Be damaged by heater malfunctioning; or

(ii) Allow flammable fluids or vapors to reach the heater in case of leakage.

(2) The region surrounding the heater, if the heater fuel system has fittings that, if they leaked, would allow fuel vapor to enter this region.

(3) The part of the ventilating air passage that surrounds the combustion chamber.

(b) *Ventilating air ducts.* Each ventilating air duct passing through any fire region must be fireproof. In addition—

(1) Unless isolation is provided by fireproof valves or by equally effective means, the ventilating air duct downstream of each heater must be fireproof for a distance great enough to ensure that any fire originating in the heater can be contained in the duct; and

(2) Each part of any ventilating duct passing through any region having a flammable fluid system must be constructed or isolated from that system so that the malfunctioning of any component of that system cannot introduce flammable fluids or vapors into the ventilating airstream.

(c) *Combustion air ducts.* Each combustion air duct must be fireproof for a distance great enough to prevent damage from backfiring or reverse flame propagation. In addition—

(1) No combustion air duct may have a common opening with the ventilating airstream unless flames from backfires or reverse burning cannot enter the ventilating airstream under any operating condition, including reverse flow or malfunctioning of the heater or its associated components; and

(2) No combustion air duct may restrict the prompt relief of any backfire that, if so restricted, could cause heater failure.

(d) *Heater controls: general.* Provision must be made to prevent the hazardous accumulation of water or ice on or in any heater control component, control system tubing, or safety control.